

Hurricane Katrina – 29 Aug 2005



Executive Summary

LEO A DALY was commissioned by Facilities Management on 24 September 2005 to both provide an initial (expeditionary level) assessment of the New Orleans VAMC hurricane and related flood damage attributable to Hurricane Katrina, and to develop ROM cost estimates for various build-back options. Our assessment team conducted on-site observations between 26 through 29 September 2005, led by Randall S. (Randy) Braley, COTR (Facilities Management), and facilitated by Phil Boogaerts, a New Orleans VAMC facility engineer.

To accomplish the above task, this Executive Summary has been built with a three part structure:

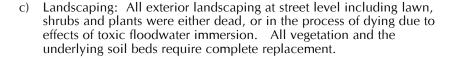
- Part 1: Contains a Damage Assessment Report documenting the physical impact of Hurricane Katrina to the existing VA Medical Center in New Orleans.
- Part 2: Contains Recommendations in the form of an Architectural Narrative which outlines four design options for providing VA Services to the New Orleans Region. The four Design Options provide progressive improvements as follows: A: recapture and harden the existing facility, B: provide full renovation to the existing campus, C1: build a new stand alone replacement facility on a new site and C2: build a new facility which will potentially be shared by the VA and the Medical Center of Louisiana on a site donated to the VA by the State of Louisiana.
- Part 3: Contains Rough Order of Magnitude (ROM) Estimates quantifying Construction, Development and Basic Operational Costs for each of the four design options.

Part 1: DAMAGE ASSESSMENT REPORT:

The following was observed and is recommended.

- a) General Condition Status: Aside from a single VAMC staff engineer, and a contract electrician, the only VA presence on-site was a rotating shift of armed VA elite police officers charged with protecting the campus assets against theft, break-in and vandalism. The building was virtually uninhabitable due to complete lack of air-conditioning with indoor temperatures variously approaching the low 90's (degrees F) and pervasive post-flood stench. Extensive mold propagation had already occurred in the flooded Basement and Sub-Basement Levels of the VAMC and Level 1 of Building 2, and was suspected as migrating up the unprotected elevator hoistways and utility shafts of these buildings due to stack effect. Floodwaters had been mostly pumped down with the exception of the Basement Level of Bldg. 2, approximately 4 to 6 inches in the VAMC Basement, and approximately 1-foot of water in the Sub-Basement. No apparent structural damage was observed.
- b) <u>Building Exterior (General</u>): Floodwater detritus and filming stains have occurred around the entire facility perimeter at the lowest exposed level. Miraculously, approximately only a dozen windows in various locations, an entrance canopy, and some building signage were destroyed. The various roof levels appeared to have weathered the hurricane without notable damage; however, the tar and gravel built-up membrane is aged such that it may not survive another major storm. Extensive power washing, and various limited refinishing/replacement work are required to restore the perimeter wall systems and grade-level architectural components.

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- d) <u>Building Interior (General)</u>: Aside from a general deplorable state of sanitation on all VAMC levels due the temporary housing of post-hurricane refugees, there was no immediate observable physical damage to the VAMC interior (sans the Basement/Sub-Basement) due to the hurricane itself. However, the complete lack of cooling and dehumidification precipitated elevated interior space temperature and relative humidity conditions conducive to mold/mildew growth, as well as create an environment that facilitated latent damage to architectural materials and finishes, especially wood, drywall, ceiling and floor finishes. Minor rainwater damage had occurred in a few selected perimeter rooms wherein either exterior window breakage or roof leakage had occurred. The entire Ground (entry) and partial Basement levels of Building 2 were completely destroyed by flooding, as were the entire Basement and Sub-Basement levels throughout the VAMC.
- e) Emergency Generators: The emergency diesel generators and their associated underground fuel storage tanks and switchgear were not affected by water intrusion, however, flood water levels were dangerously close to entering these spaces. If this critical equipment is to remain in this location, then effective means to prevent flooding need to be implemented.
- f) Lighting & Power: Limited power and lighting services have been continuously available throughout most areas of the VAMC due to operation of the emergency generators and temporary connections to selected critical basement level equipment. One of the two utility service entrance feeders was restored immediately prior to our team's arrival on-site. Normal power to Quadrant D is currently not available due to the loss of a Basement Level substation due to flooding. All power to Basement and Sub-Basement Levels had either tripped and/or had been subsequently locked-out for safety reasons due to the continued presence of floodwaters in the lower levels. Building 2 power was not capable of being re-established. Permanent power restoration to Quadrant D and Basement/Sub-Basement Levels will entail long-lead restoration design and implementation work.
- g) Elevators: All elevators were locked-out of service for safety reasons. Although elevator machinery, located in VAMC roof penthouses, was not damaged; the hoistways, including a few cars, remained partially submerged in the lower levels. These cars will require replacement. Hoistway landing doors were in the process of being boarded/taped-off in an attempt to minimize mold/mildew and contaminated air propagation throughout the VAMC due to stack effect. All submerged hoistway equipment requires cleaning or replacement. Associated masonry walls require replacement due to the inability to mitigate the long-term effects of the contaminated floodwater submergence.
- h) Steam Boiler Plant: Floodwaters had partially submerged boiler control panels, rendering the plant inoperable. Aside from other superficial damage, the boiler plant generally survived Katrina. Nonetheless, once restored to service, should it remain in its current at-grade level location, exterior hardening is required, as is a general replacement of its failed and aging equipment.



North Exposure - Generator Bldg.



Building 1 – West to East View



Typ Basement Corridor (Bldg. 1)



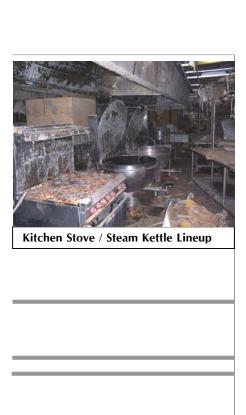
East Basement Areaway (Quad F)

- Food Services: The entire food services department, including kitchen equipment and walk-in refrigerated cooler and freezer cases, were totally destroyed by contaminated floodwaters. This service area should not be replaced in the Basement. Food service restoration is recommended.
- j) Medical Gas Systems: All medical air compressor and vacuum pump stations and their associated piping systems located in the VAMC Basement and Sub-Basement levels were destroyed by flooding. Only one air/vacuum station, servicing Building G (Nursing Home Care Unit) and the bulk oxygen storage and vaporizer station, survived Katrina. All flooded equipment and piping requires replacement and the entire medical air and oxygen systems require re-certification testing for NFPA and JCAHO compliance assurance prior to permitting reactivation of any in-patient beds.
- k) Plumbing Systems: Floodwaters submerged all domestic water booster pumps, sewage lift stations and sump pumps in the Basement and Sub-Basement Levels, rendering them inoperable. Consequently, no potable water or toilet flushing was possible. All submerged pumps of a non-submersible design, including their controls, require replacement. As an interim stop-gap measure, certain Basement and Sub-Basement submersible sump pumps were in the process of having their motors replaced to permit temporary 'jerry-rigged' manual operation.
- Chiller Plant: The entire VAMC 3200 Ton Basement-located multichiller plant, with its associated pumps, treatment and controls is deemed a complete loss due to extended submergence in the posthurricane floodwaters. The associated roof-mounted cooling towers appeared to be unscathed by the hurricane, but were nonetheless inoperable due to the loss of the remainder of the chiller plant. As this engineering plant infrastructure is critical to facilitate VAMC operations, and is both cost intensive and carries a long-lead replacement time, its in-kind replacement in the Basement is not recommended due to the future potential for a recurrence of flooding. Temporary restoration of chilled water service was being investigated with ENTERGY, a local district chilled water service provider, having an undamaged plant located directly north of the VAMC campus. (Subsequent to our assessment, the VA contracted with ENTERGY to provide the necessary Basement piping infrastructure tie-ins, and a temporary (or potentially long-term) service for chilled water had been established in mid-December, permitting VAMC air-conditioning to be restored.) Should the chiller plant be replaced, it should be located in a new hardened and elevated facility on the VAMC campus to preclude its future loss should another flood event occur.
- m) <u>Fire Detection and Alarm System</u>: The central equipment for this system was lost to Basement flooding. As key replacement components for this currently outdated system are no longer available, the fire detection and alarm system will require complete (long lead) replacement throughout the VAMC. Until this critical life safety system can be replaced, the facility is not deemed safe to permit reactivation for in-patient bed use.
- n) Fire Sprinkler Protection System: The building fire pumps and controllers were completely submerged in floodwaters. A subsequent temporary (non-code compliant) power feed, 'jerry-rigged' controls, and motor replacement have afforded the main fire pump to function. However, this equipment requires complete replacement and restoration of permanent code-compliant power feeder service at the soonest opportunity.

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Heating, Ventilating & Air-Conditioning, Heating (including Automation Controls): With the complete loss of the building automation and control system hub, due to Basement flooding, all surviving HVAC equipment was/is non-functional in an automatic mode. There was no functioning air-conditioning during our survey, save some portable jerry-rigged window air-conditioners in a few select spaces. All airhandling equipment, ductwork, piping insulation, and various components in the Basement and Sub-Basement levels is a complete loss. As a portion of the flood-damaged systems previously served VAMC Level 1, this level additionally will be without air-conditioning service for a considerable time, until replacement can be afforded, preferably in a reconfigured Level 1 (or higher) location. Mold/mildew and bacteria sampling by an industrial hygienist has revealed that all Level 1 (and lower) ductwork requires replacement, as well as all ductwork on Levels 2 and higher requires cleaning by an NADCA certified commercial duct cleaning contractor (cleaning subsequently contracted and in-progress as of this writing). The building automation and controls systems requires an in-kind replacement of all flooddamaged infrastructure, again preferably in a new (higher)VAMC location (TBD) not prone to future flooding.

Part 2: ARCHITECTURAL NARRATIVE:

This Narrative outlines the effort required to return the V. A. in New Orleans to a Healthcare capacity equal to or exceeding Pre Katrina capacities. The four Design Options provide progressive improvements as follows:

- Option A, Space Recapture/Hardening;
- 2. Option B, Existing Campus Renovation;
- 3. Option C1, Stand Alone Replacement Facility on New Campus
- 4. Option C2, Potentially Shared Campus Facility

The four Options, described below, will benefit from the following common improvements:

- All Engineering Services for Power, Water, Sewer and HVAC will be contained in a Central Plant Facility hardened and elevated to protect against future Cat 5 hurricane damage.
- Back up Power, Water, Sewer and HVAC systems will be enhanced or replaced in Options A & B and built new in Options C1 and C2. All Options will provide 8 days of service after disruption of the City's infrastructure during a storm event.
- A helipad will be provided in all options to accommodate emergency access by air.
- All exterior glazing will be designed to withstand code defined wind and debris damage from future hurricane events.

Utility, Operation and Maintenance Costs for all estimates were based on the following criteria:

- Staffing cost model derived form historical salary information from similar size and type of government medical facility. The costs have been escalated at 3% per annum for 30 years.
- Utility Costs projected to be 30% of Maintenance Costs and escalated at 3% per annum for 30 years.
- Maintenance Costs projected to be 2% of Direct Construction Costs and escalated at 3% per annum for 30 years.

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•	The Utility, Operation and Maintenance Costs for Option C2 will continue to be refined to capture additional savings possible from a more comprehensive strategy for sharing of departments, staff and services. Option C2 currently does not take into account these potential savings, other than some minimal efficiencies for the site utilities gained by sharing. A Task Force consisting of VA and Medical Center of Louisiana representatives will soon be formed and will have a key role in outlining the specific details of operating and maintaining a truly "shared" facility. The Task Force recommendations will have a direct affect on the estimated utilities, maintenance, and operations costs.
	OPTION A NARRATIVE - Post Katrina Recapture and Hardening \$287,817,509:
	Option A is estimated at a 45% market factor since it is anticipated that the project will bid within 12 months of Katrina.
1.	Option A renovates the existing New Orleans VAMC to reactivate the Pre Katrina Program of services and harden all Central Engineering Services which were damaged due to Katrina induced wind, flood and mold damage. All substandard construction (including the Emergency Department) will be rebuilt in place to conform to current Codes and Safety Standards.
2.	Post Katrina repair includes significant repair or replacement of existing partitions, finishes HVAC and Engineering systems. In this Option, the targeted renovations are limited to reactivating a Pre-Katrina Program of services in a safe and clean acute care environment.
3.	Area 9G and 10G will retain it's recent Primary and Specialty Care Clinic Renovations for Option A with minor cosmetic clean-up.
4.	Flood Protection will include waterproofing the exterior walls and elevating the areaway curbs to achieve significant protection against Post Katrina Flood levels.
	OPTION B NARRATIVE – Existing Campus Renovation \$622,165,961:
	Option B is estimated at a 45% market factor since it is anticipated that the project will bid within 12 months of Katrina.
1.	Option B will fully demolish all interior walls, finishes, electrical, HVAC and plumbing systems on all floors to achieve a full renovation in partial conformance with the CARES Program. This renovation will accommodate the new CARES program to the limit of the existing square footage. Thus approximately 80% of the CARES program requirements will be satisfied in option B.
2.	All substandard construction (including the Emergency Department) will be rebuilt in place to conform to current Codes and Safety Standards.
3.	Area 9G will be converted back to Nursing Home use and 10G will retain it's recent Specialty Care Clinic Renovations with minor cosmetic clean-up.

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4	. Flood Protection will include waterproofing the exterior walls and elevating the areaway curbs to achieve significant protection against Post Katrina Flood levels.
	<u>OPTION C1 NARRATIVE</u> - Stand Alone Replacement Facility on New Campus \$645,107,584:
	Option C1 is estimated at a 25% market factor since it is anticipated that the project will bid within 24 months of Katrina.
1	. Option C1 will be built from entirely new construction on a new site within the New Orleans Region. The site is assumed to be significantly higher than post Katrina flood levels.
	. While the new facility gross square footage (GSF) is less than the existing campus GSF, the new VA campus will have more square feet dedicated to healthcare services than the existing. Thus, C1 will fully accommodate the CARES program. Approximately 208 beds will be provided of which 60 beds will be dedicated to Nursing Home care. The new site would include sufficient parking spaces to meet the projected CARES program requirement. This facility will provide diagnostic, major therapeutic and interventional areas such as laboratory, radiology, catheterization labs, operating suites and recovery services. Outpatient Clinic, Mental Health and Pharmacy services are also provided. The facility will conform to all new construction and healthcare standards of practice.
3	. Under Option C1, further studies will be required to determine the best use for the existing VAMC Campus. The costs incurred for the re-disposition of the existing campus should be carried as a contingency outside of the C1 estimate.
	OPTION C2 NARRATIVE - Campus Facility Potentially Shared with the Medical Center of Louisiana (MCL costs not included) \$635,789,879:
	Option C2 is estimated at a 25% market factor since it is anticipated that the project will bid within 24 months of Katrina.
1	. The new site for Option C2 will be provided by the State of Louisiana at a site yet to be determined and will be in proximity to the existing Medical Center of Louisiana campuses. The colocated campus plan will include separate but autonomous bed towers and outpatient clinical space for the VA and Medical Center of Louisiana Hospitals. Common areas would provide space for shared non-clinical support services such as parking, food services, laundry, energy and utility management, helipad, etc. and may be located between the twin bed towers. Separate, though contiguous, diagnostic, major therapeutic and interventional areas such as laboratory, radiology, catheterization labs, operating suites, etc., would be built for the VA and Medical Center of Louisiana Hospitals.
	. While the VA component the new facility gross square footage (GSF) is less than the existing campus GSF, the new VA campus will have more square feet dedicated to healthcare services than the existing. Thus, C2 will fully accommodate the CARES program Approximately 208 beds will be provided of which 60 beds will be

dedicated to Nursing Home care. The new shared site would include sufficient parking spaces to meet the projected CARES program requirement. This facility will provide diagnostic, major therapeutic and interventional areas such as laboratory, radiology, catheterization labs, operating suites and recovery services. Outpatient Clinic, Mental Health and Pharmacy services are also provided. The facility will conform to all new construction and healthcare standards of practice.

- 3. The construction costs for the Medical Center of Louisiana program (including approximately 400 beds) have not been included in the construction number listed for Option C2.
- 4. Option C2 will be built on a donated site capable of accommodating the co-located requirements of the VA and Medical Center of Louisiana programs. The site will be hardened against flooding by elevating the perimeter of the site to repel post Katrina flood levels. The site perimeter will terrace up to the 1st floor of the new building which will be located significantly higher than post Katrina flood levels.
- 5. New Vehicular Ingress and Egress ramps for emergency access during a storm event will be provided. These ramps will be elevated to overcome a 100 year flood event and will connect the shared site to a State Highway or Federal Interstate system in conformance with the following standards: CD-54 VA design standards and the Pilot Study of ... Natural Disasters dated August 23, 2005. The cost for these emergency access ramps should be carried as an off-site contingency and is outside of the estimate amount listed above.
- 6. Under Option C2, further studies will be required to determine the best use for the existing VAMC Campus. The costs incurred for the re-disposition of the existing campus should be carried as a contingency outside of the C2 estimate.

Part 3: ROUGH ORDER OF MAGNITUDE ESTIMATES:

The following pages contain ROM Estimates, which capture the anticipated costs of retuning the V. A. in New Orleans to a Healthcare capacity equal to or exceeding Pre Katrina capacities. The Architectural Narrative above describe the performance targets for each of the ROM estimates below:

- 1. Option A, Space Recapture/Hardening;
- 2. Option B, Existing Campus Renovation;
- 3. Option C1, Stand Alone Replacement Facility on New Campus
- 4. Option C2, Potentially Shared Campus Facility

Cost	Summary					
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
	Parametric Cost Summary					
	Date: 2/21/06					
				Ectiv	nated C	net
	Items	Gross SF	_	Cost		Sqaure Foot Cost
	Rems	01033 01		0031		iquare i oot cost
01	VAMC New Orleans Hospital Clean-up Including;	1,134,261	\$	103,089,951	\$	90.89
	Existing Building 1	633,148				
	Total Renovation of 1st Floor	Included				
	Mental Health Clinic Renovation - 6,500 sf	Included				
	Demolition of Basement & Sub Basement	92,818				
	New Central Plant	12,000				
	New Connector Bridge	10,000				
	Primary Care Clean-up - 9th FI	37,765				
	Primary Care Clean-up - 10th FI	30,699				
	Building 6 Parking Area	287,831				
	New Emergency Room	30,000				
	Kitchen Relocation	Included				
	Relocation of Mechanical Room	Included				
	Cleaning & Sanitizing Existing Building	Included				
	(6) New Elevations	Included				
	Replace Existing Roof	Included				
	Heli-Pad Area	Included				
02	Site Work		\$	9,600,000	\$	8.46
	Replace Sewer Line					
	Repalce Domestic Waterline					
	Demolition of Building 2	18,189				
03	Additional Items		\$	2,268,522	S	2
	Re-Commissining of Equipment - Medical Euip. Only					
	Subtotal		\$	114,958,473		101.38
	Advanced Planning Fund at 5%		\$	5,747,924	\$	5.07
	Physical Security Fund at 5%		\$	5,747,924	\$	5.07
	Conversion to achieve a 45% Post Katrina Market Factor		\$	25,290,864	\$	22.30
	Design Contingency at 10%		\$	15,174,518	\$	13.38
	GC's OH, Profit & Bond at 17%		\$	28,376,350	\$	25
	A/E Fees at 10%		\$	19,529,605	\$	17
	Construction Phase Services at 3%		\$	6,444,770	\$	5.68
	Construction Contingency at 7.5%		\$	16,595,282	\$	15
	Escalation @ 10% Per Annum 1.21%		\$	49,951,799	\$	44
	Total Project Estimate		\$	287,817,509	\$	253.75
		Utility		Maintenance		Operation
	Year	Costs		Costs		Costs
	20	\$ 133,031,588	\$	443,438,628	\$	4,073,612,371
	30	\$ 231,964,815	\$	773,216,050	\$	7,103,085,446

The Utility, Operation and Maintenance Costs for Option C2 will continue to be refined to capture additional savings possible from a more comprehensive strategy for sharing of departments, staff and services. Option C2 currently does not take into account these potential savings, other than some minimal efficiencies for the site utilities gained by sharing. A Task Force consisting of VA and Louisiana Medical Center representatives will soon be formed and will have a key role in outlining the specific details of operating and maintaining a truly "shared" facility. This group's recommendations will have a direct affect on the estimated utilities, maintenance, and operations costs.



Utility, Operation and Maintenance Costs for all estimates were based on the following criteria: Staffing cost model derived form historical salary information from similar size and type of government medical facility. The costs have been escalated at 3% per annum for 30 years.

Utility Costs projected to be 30% of of Maintenance Costs and escalated at 3% per annum for 30 years.

Maintenance Costs projected to be 2% of Direct Construction Costs and escalated at 3% per annum for 30 years.



t Sum	mary					
	Parametric Cost Summary					
	Date:2/21/06					
		-		Est	mated	Cost
	Items	Gross SF		Cost		Sqaure Foot Cost
						100.0
01	VAMC New Orleans Campus Renovation	1,134,261	\$	210,974,422	\$	186.00
	Including;					
	Building 1 Renovation	633,148				
	Demolition of Basement & Sub Basement	92,818				
	New Emgergency Department	30,000				
	Power Washing of Ext. 1st FI & Parking Area	287,831				
	New Central Plant Equipment & Building	12,000				
	Mental Health Clinic Renovation - Included in Bldg 1	Included				
	Convert Primary Care to Nursing Suite - 9th FI	37,765				
	Primary Care Clinic Clean-up - 10th FI	30,699				
	New Connector Bridge	10,000				
	New Heli-Pad Area - Included in Bldg 1	Included				
	New Kitchen Area - Included in Bldg 1	Included				
	TOTT THOSE THOSE HIGHER IT DIEG T	moidada				
02	Site Work		\$	9,625,782	S	8.4
	Site Utilities		-	0,1-0,11-		
	Demolition of Building 2	18,189				
	Misc. Site Work	10,100				
03	Additional Items		\$	5,310,776	s	P.
	Commissioning of Equipment			0,010,110		
	Subtotal		\$	225,910,980		199.1
	Advanced Planning Fund at 5%		\$	11,295,549	\$	9.9
	Physical Security Fund at 5%		\$	11,295,549	\$	9.9
	Conversion to achieve a 45% Post Katrina Market Fac	ctor	\$	49,700,416	\$	43.8
	Design Contingency at 10%		\$	29,820,249	s	20
					17	
	General Conditions at 17%		\$	55,763,866	Ф	4:
	GC's OH, Profit & Bond at 10%		\$	38,378,661	\$	3-
	A/E Fees at 10%		\$	42,216,527	\$	3
	Construction Phase Services at 3%		\$	13,931,454	\$	1:
	Construction Contingency at 7.5%		\$	35,873,494	\$	3:
	Escalation @ 10% Per Annum - 1.21%		\$	107,979,216		9:
	Total Project Estimate					548.52
	Total Project Estimate		\$	622,165,961	Þ	548,5
		Utility	Λ	Maintenance		Operation
	Year	Costs	12	Costs	1,00	Costs
	20	\$ 34,948,407		129,566,660		4,073,612,37
	30	\$ 57,443,886	\$	225,923,080	2	7,103,085,446

Utility, Operation and Maintenance Costs for all estimates were based on the following criteria:

The Utility, Operation and Maintenance Costs for Option C2 will continue to be refined to capture additional savings possible from a more comprehensive strategy for sharing of departments, staff and services. Option C2 currently does not take into account these potential savings, other than some minimal efficiencies for the site utilities gained by sharing. A Task Force consisting of VA and Louisiana Medical Center representatives will soon be formed and will have a key role in outlining the specific details of operating and maintaining a truly "shared" facility. This group's recommendations will have a direct affect on the estimated utilities, maintenance, and operations costs.



Staffing cost model derived form historical salary information from similar size and type of government medical facility. The costs have been escalated at 3% per annum for 30 years.

Utility Costs projected to be 30% of of Maintenance Costs and escalated at 3% per annum for 30 years.

Maintenance Costs projected to be 2% of Direct Construction Costs and escalated at 3% per annum for 30 years.

	w Orleans - Option C1; <u>Replacemen</u> mary - 100% Patient Census		1			
t Sum	mary - 100% Patient Census					
	Parametric Cost Summary					
	Date: 2/21/06					
	500. 22770					
				Estima	ted Cost	t
	Items	Gross SF		Cost	Sq	aure Foot Cost
01	VAMC New Orleans - Replacement Facility	948,583	\$	249,876,843	\$	263.42
	Including;		-	,		
	CARES Program	870,583				
	300 Car Parking Structure	66,000				
	New Central Plant	12,000				
	Back-up Power Generation	72,000				
	Heli-Pad Area					
02	Site Work			46 600 202	•	17.50
02			\$	16,600,203	Þ	17.50
	Site Utilities		-			
	2000 Parking Spaces on Grade					
	Misc. Site Work		_			
03	Additional Items		\$	4,742,915	\$	5
	Commissining of Equipment					
	Subtotal		\$	271,219,961		285.92
	Advanced Planning Fund at 5%		\$	13,560,998	\$	14.30
	Physical Security Fund at 5%		\$	13,560,998	\$	14.30
	Design Contingency at 10%		\$	29,834,196	\$	31
	General Conditions at 12%		\$	39,381,138	S	42
	71.000.000.000.000.000.000.000.000.000.0		1,1		10-	
	GC's OH, Profit & Bond at 6%		\$	22,053,437	\$	23
	A/E Fees at 10%		\$	38,961,073	\$	41
	Construction Phase Services at 3%		\$	12,857,154	\$	14
	Construction Contingency at 7.5%		\$	33,107,172	\$	35
			\$	157,071,458		166
	Escalation @ 10% Per Annum 1.33%		٥	137,071,438	φ	700
	Subtotal		\$	631,607,584		665.84
	Land Acquisition		\$	13,500,000		
	Total Project Estimate - 100% Census		\$	645,107,584		
		Utility		Maintenance		Operating
	Year	Costs		Costs		Costs
	20	\$ 41,957,702	S	155,552,707	\$	3,666,251,134
	30	\$ 68,964,902		271,234,488		6,392,776,901
		÷ 50,004,502		,,_0+,+00	*	0,002,770,007

Utility, Operation and Maintenance Costs for all estimates were based on the following criteria:

Maintenance Costs projected to be 2% of Direct Construction Costs and escalated at 3% per annum for 30 years.

The Utility, Operation and Maintenance Costs for Option C2 will continue to be refined to capture additional savings possible from a more comprehensive strategy for sharing of departments, staff and services. Option C2 currently does not take into account these potential savings, other than some minimal efficiencies for the site utilities gained by sharing. A Task Force consisting of VA and Louisiana Medical Center representatives will soon be formed and will have a key role in outlining the specific details of operating and maintaining a truly "shared" facility. This group's recommendations will have a direct affect on the estimated utilities, maintenance, and operations costs.



Staffing cost model derived form historical salary information from similar size and type of government medical facility. The costs have been escalated at 3% per annum for 30 years.

Utility Costs projected to be 30% of of Maintenance Costs and escalated at 3% per annum for 30 years.

	Year	Costs		Costs		Costs
		Utility		Maintenance		Operating
	Total Project Estimate - 100% Census		\$	635,789,879		
	Land Acquisition		\$	-		
	Subtotal		\$	635,789,879		670.2
	Escalation @ 10% Per Annum 1.33%		\$	158,111,533	\$	167
	Construction Contingency at 7.5%		\$	33,326,396	\$	38
	Construction Phase Services at 3%		\$	12,942,290	\$	14
	A/E Fees at 10%		\$	39,219,060	\$	4
	GC's OH, Profit & Bond at 6%		\$	22,199,468	\$	23
	General Conditions at 13%		\$	42,565,351	\$	4
	Design Contingency at 10%		\$	29,765,980	\$	3
	Physical Security Fund at 5%		\$	13,529,991	\$	14.2
	Advanced Planning Fund at 5%		\$	13,529,991	\$	14.2
	Subtotal		\$	270,599,819		285.2
03	Additional Items Commissining of Equipment		\$	4,742,915	2	30
03			s	4 742 045	•	
	2000 Parking Spaces on Grade Misc. Site Work		-			
	Site Utilities					
02	Site Work		\$	26,651,620	\$	28.1
	Heli-Pad Area					
	Back-up Power Generation					
	New Central Plant	12,000				
	CARES Program 300 Car Parking Structure	870,583 66,000	-			
01	VAMC New Orleans - Replacement Facility Including;	948,583	\$	239,205,284	\$	252.1
	Items	Gross SF		Cost		qaure Foot Cost
	Marina	C SF	_	Estima		
	Date: 2/21/06		-			
	Parametric Cost Summary			-		
	mary - 100% Patient Census					

Utility, Operation and Maintenance Costs for all estimates were based on the following criteria:

The Utility, Operation and Maintenance Costs for Option C2 will continue to be refined to capture additional savings possible from a more comprehensive strategy for sharing of departments, staff and services. Option C2 currently does not take into account these potential savings, other than some minimal efficiencies for the site utilities gained by sharing. A Task Force consisting of VA and Louisiana Medical Center representatives will soon be formed and will have a key role in outlining the specific details of operating and maintaining a truly "shared" facility. This group's recommendations will have a direct affect on the estimated utilities, maintenance, and operations costs.



Staffing cost model derived form historical salary information from similar size and type of government medical facility. The costs have been escalated at When the standard of the